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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/525,524

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Masao Ushida

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

ALAM, RASHID A

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

10/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/525,524	Applicant(s) USHIDA ET AL.	
	Examiner RASHID ALAM	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,7,9,10,12,14-17,19,21-23,31 and 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5, 7, 9, 10, 12, 14, 15, 16, 17, 19, 21, 22, 23, 31, and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The applicant's request for reconsideration filed on 06/27/2008 was received. Claims 1, 4, 5, 7, 9, 10, 12, 14, 17, 19 and 21 are amended. Claims 2, 6, 11, 13, 18, 20 and 24-30 are cancelled. New claims 31 and 32 are added.
2. The text of those sections of Title 35, U.S.C. code not included in this section can be found in the prior Office Action issued on 04/29/2008.

Claim Rejections - 35 USC § 102

5. Claims 1, 4, 5, 7, 9, 10, 12, 14, 16, 17, 19, 21, 23, 31, and 32, are rejected under 35 U.S.C. 102(e) as being anticipated by Nozawa (US 2002/0058186).

Regarding claims 1, 4, 5, 9, 31 and 32, Nozawa teaches a multilayer mask blank having a light translucent film on the surface of the substrate such that all layers contain different amounts of nitrogen in which the surface layer, one layer having more nitrogen than the other, which is the light translucent film, which also serves as the ammonium ion production preventive layer and is exposed on the surface of the mask after the mask is manufactured (see abstract and page 4, paragraph 0050 and paragraph 0075). The light translucent film on the surface of the substrate contains different amounts of nitrogen and oxygen, one layer having more nitrogen than the other, which serves as the ammonium ion production preventive layer (see abstract and page 4, paragraph 0050 and paragraph 0075). Nozawa teaches a mask blank having a light translucent film on the surface of the substrate that contains nitrogen which serves as the

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ammonium ion production preventive layer and is exposed on the surface of the mask after the mask is manufactured (see abstract and page 4, paragraph 0050). Nozawa also teaches forming a pattern on the substrate (see page 2, paragraphs 0023 and 0024). Nozawa teaches a multilayer mask blank having a light translucent film on the surface of the substrate such that all layers contain different amounts of nitrogen in which the surface layer, which is the light translucent film, serves as the ammonium ion production preventive layer and is exposed on the surface of the mask after the mask is manufactured (see abstract and page 4, paragraph 0050 and paragraph 0075).

Nozawa also teaches a multi layered phase shift mask blank having a light translucent film or a light translucent portion having the designated phase angle and transmittance and having a translucent film on a transparent substrate, comprising of nitrogen, metal, and silicon as a main component on said transparent substrate (see abstract).

Regarding claim 7, the translucent film on the surface of the substrate that contains nitrogen also contains silicon (see abstract).

Regarding claims 10 and 17, the ammonium ion production preventive layer (light translucent film) thickness is from 672 angstroms (see table 1, entry 1) and the thin film, which contains nitrogen, has thickness of 935 angstroms (see page 5, paragraph 0094).

Regarding claims 12 and 19, the chemical composition of the ammonium ion production preventive layer (light translucent film) is made up of stable elements (see page 6, paragraph 0096).

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Regarding claims 14 and 21, the thin film contains silicon and molybdenum (see page 5, paragraph 0094) and the ammonium ion production preventive layer (light translucent film) is oxidized (see page 6, paragraph 0096).

Regarding claims 16 and 23, the exposure light source is a KrF laser and an ArF laser (see page 4, paragraph 0051).

Claim Rejections - 35 USC § 103

6. Claims 15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa (US 2002/0058186) as applied to claims 1, 4, 5, 7, 9, 10, 12, 14, 16, 17, 19, 21, 23, 31, and 32 above, and further in view of Ohshima (2002/0142249).

Regarding claims 15 and 22, Nozawa teaches as stated above in paragraph 5. However, Nozawa is silent on the concentration of ammonium.

Ohshima teaches the concentration of ammonium ion is from 0 to 10,000 ppm, which is less than 20 nanograms per centimeter squared (see page 25, paragraph 0219). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention for the concentration of ammonium ion to be less than 20 nanograms per centimeter squared by Nozawa, because Ohshima teaches the concentration of ammonium ions being less than 20 nanograms per centimeter to accommodate anodization treatment of a lithographic printing plate.

Response to Arguments

3. Applicant's arguments filed on 06/27/2008 have been fully considered but they are not persuasive.

Applicant's principal arguments are:

(a) The reference of Nozawa states "It is desirable not to include a reactive oxygen atmosphere such as oxygen in atmosphere of thermal treatment", which teaches away from the invention.

(b) Ohshima does disclose the limitation of 0 to 10,000 ppm. However, Ohshima is silent about the other aspects and limitations of the invention.

In response to Applicant's arguments, please consider the following comments:

(a) First, the application is rejected under 102(b), so it does not matter whether it teaches away from the invention, as long as it teaches the limitation. Second, it is not stated in the claims in question to not have an oxygen atmosphere, or any oxygen at all. Third, stating that it is desirable not to include a reactive oxygen atmosphere is not stating to omit the use of oxygen, it is simply giving an alternative embodiment of the invention. This alternative is given when the light translucent film is used. Furthermore, it can clearly be seen in paragraph 0022 that oxygen is present in the light translucent film, thus showing that there is oxygen present during heating, which can be broadly interpreted as an oxygen atmosphere, in another embodiment of the invention.

(b) It is admitted by the applicant that the limitation is met. Ohshima is analogous art, and in combination with Nozawa reference, teaches a key limitation of the whole invention. Therefore, it is shown that the limitation taught in Ohshima in combination with Nozawa teaches all limitations of the invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RASHID ALAM whose telephone number is (571)270-3959. The examiner can normally be reached on Mon.-Fri. 7:30 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark F. Huff/
Supervisory Patent Examiner, Art Unit
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/RASHID ALAM/
Examiner, Art Unit 1795